



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/774,191	01/29/2001	Richard L. Sites	07844-437001	7294
21876	7590	07/26/2004	EXAMINER	
FISH & RICHARDSON P.C. 3300 DAIN RAUSCHER PLAZA MINNEAPOLIS, MN 55402			VO, HUYEN X	
			ART UNIT	PAPER NUMBER
			2655	

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/774,191	SITES, RICHARD L.	
	Examiner	Art Unit	
	Huyen Vo	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 14, 16, and 19-26 are objected to because of the following informalities: claims 14, 16, and 20 cannot depend upon themselves. Also, claim 19 cannot depend upon claim 1 because claim 1 is involved with a computer program rather than a method. The examiner interprets that claim 14 is dependent upon claim 4, claim 16 is dependent upon claim 15, claim 19 is dependent upon claim 18, and claim 20 is dependent upon claim 19. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4-8, 14-15, and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg (US Patent No. 6205261) in view of Crandall (US Patent No. 5999949).

4. Regarding claims 1 and 18, Goldberg discloses a computer program product and a method, stored on a machine-readable medium, comprising instructions operable to cause a programmable processor to:

Art Unit: 2655

search a document for one or more unambiguous words, where unambiguous words are words that do not contain an ambiguous typesetting placeholder (*element 615 of figure 6A*);

search the document for one or more ambiguous words, where ambiguous words are words that do contain an ambiguous typesetting placeholder (*element 615 of figure 6A*); and to

use the dictionary to resolve the one or more ambiguous words by resolving the ambiguous typesetting placeholders occurring in each ambiguous word (*col. 10, ln. 40-67*).

Goldberg does not disclose the step of automatically adding the one or more unambiguous words to a dictionary. However, Crandall teaches the step of automatically adding the one or more unambiguous words to a dictionary (*col. 4, ln. 43-60, scanning text to generate dictionary*).

Since Goldberg and Crandall are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Goldberg by incorporating the teaching of Crandall in order to determine ambiguous words for corrections to improve the system's efficiency.

5. Regarding claim 17, Goldberg discloses a computer program product, stored on a machine-readable medium, comprising instructions operable to cause a programmable processor to:

Art Unit: 2655

search the document for one or more unambiguous words, where unambiguous words are words that do not contain an ambiguous typesetting placeholder (*element 615 of figure 6A*);

search the document for an ambiguous word, where an ambiguous word is a word that does contain an ambiguous typesetting placeholder (*element 615 of figure 6A*);

create a set of candidate solutions for the ambiguous word, wherein each candidate solution comprises one or more character strings created by resolving the one or more ambiguous typesetting placeholders in the ambiguous word, and wherein the set of candidate solutions comprises all possible combinations of resolutions of the one or more typesetting placeholders (*col. 10, ln. 40-67 and col. 17, ln. 1-32 shows many possible combinations of resolutions*);

search the dictionary for the one or more character strings in each candidate solution of the ambiguous word (*col. 11, ln. 1-67*);

resolve the one or more ambiguous typesetting placeholders in conformity with the one or more resolutions used to create a member of the set of candidate solutions when the dictionary search matches only that member of the set of candidate solutions (*col. 11, ln. 1 to col. 12, ln. 67 or referring to figures 6-7, a process of eliminating character sequences that do not make sense and select the most probable matched word by using rules established therein*);

prompt a user to manually resolve the one or more ambiguous typesetting placeholders when the dictionary search fails to match any member, and matches a plurality of members, of the set of candidate solutions (*col. 16, ln. 1-*

Art Unit: 2655

16, one of ordinary skill in the art would readily recognize that the list of "reference words" may not contain the target word); and to

Goldberg does not disclose the step of automatically adding the one or more unambiguous words to a dictionary. However, Crandall teaches the step of automatically adding the one or more unambiguous words to a dictionary (*col. 4, ln. 43-60, scanning text to generate dictionary*).

Since Goldberg and Crandall are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Goldberg by incorporating the teaching of Crandall in order to determine ambiguous words for corrections to improve system's efficiency.

6. Regarding claims 4 and 19, Goldberg further discloses that the instruction and method to use the dictionary to resolve the ambiguous typesetting placeholders in each ambiguous word, comprises instructions operable to cause a programmable processor to: create a set of candidate solutions for the ambiguous word, wherein each candidate solution comprises one or more character strings created by resolving the one or more ambiguous typesetting placeholders in the ambiguous word, and wherein the set of candidate solutions comprises all possible combinations of resolutions of the one or more typesetting placeholders (*col. 10, ln. 40-67 and col. 17, ln. 1-32 shows many possible combinations of resolutions*); search the dictionary for the one or more character strings in each candidate solution and use the dictionary search result to resolve

Art Unit: 2655

the one or more ambiguous typesetting placeholders in the ambiguous word (*col. 11, ln. 1-67*).

7. Regarding claim 5, Goldberg further disclose the instruction to create different possible combinations of candidate solutions, but fails to specifically disclose the instruction to create a set of candidate solutions for an ambiguous word having N binary-resolvable typesetting placeholder ambiguities comprises instructions to create a set of 2^N candidate solutions. However, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Goldberg by incorporating instructions to create 2^N candidate solutions in order to cover all possible errors that might have occurred to enhance the system's efficiency.

8. Regarding claims 6 and 20, Goldberg further discloses that the instruction and method to use the dictionary search result to resolve the one or more ambiguous typesetting placeholders in the ambiguous word, further comprises instructions to resolve the one or more ambiguous typesetting placeholders in conformity with the one or more resolutions used to create a member of the set of candidate solutions when the dictionary search matches only that member of the set of candidate solutions (*col. 11, ln. 1 to col. 12, ln. 67 or referring to figures 6-7, a process of eliminating character sequences that do not make sense and select the most probable matched word by using rules established therein*).

Art Unit: 2655

9. Regarding claims 7-8 and 21-22, Goldberg further discloses that the instruction and method to use the dictionary search result to resolve the one or more ambiguous typesetting placeholders in the ambiguous word, further comprises instructions to prompt a user to manually resolve the one or more ambiguous typesetting placeholders in the ambiguous word when the dictionary search fails to match any member of the set of candidate solutions and/or matches a plurality of members of the set of candidate solutions (*col. 16, ln. 1-16, one of ordinary skill in the art would readily recognize that the list of "reference words" may not contain the target word*).

10. Regarding claims 14-15, Goldberg further discloses instructions operable to cause a programmable processor to output the character code for the correct ambiguity resolution (*col. 15, ln. 29 to col. 16, ln. 16, characters are represented by codes in a computer system*), and the ambiguous typesetting placeholders comprise white space between characters resolvable as blank space or kerning space (*col. 5, ln. 30-47*).

11. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg (US Patent No. 6205261) in view of Crandall (US Patent No. 5999949) as applied to claim 1 above, and further in view of Froessl (US Patent No. 5875263).

Art Unit: 2655

12. Regarding claims 2-3, the modified Goldberg does not disclose that the instruction to automatically add one or more ambiguous words to a dictionary comprises instructions to add the one or more ambiguous words to an initially empty dictionary and the dictionary further comprises instructions to add the one or more ambiguous words to a dictionary containing one or more unambiguous words located in one or more documents that have been previously processed by the computer program.

However, Froessl teaches that the instruction to automatically add one or more ambiguous words to a dictionary comprises instructions to add the one or more ambiguous words to an initially empty dictionary, and the dictionary further comprises instructions to add the one or more ambiguous words to a dictionary containing one or more unambiguous words located in one or more documents that have been previously processed by the computer program (*col. 9, ln. 51 to col. 10, ln. 67*).

Since the modified Goldberg and Froessl are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Goldberg by incorporating the teaching of Froessl in order to improve the recognition accuracy in subsequent recognition.

13. Claims 9-12 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg (US Patent No. 6205261) in view of Crandall (US

Art Unit: 2655

Patent No. 5999949), as applied in claim 4, and further in view of Huang et al. (US Patent No. 5829000).

14. Regarding claims 9-12 and 23-26, the modified Goldberg does not disclose that the instruction to use the dictionary search result to resolve the one or more ambiguous typesetting placeholders in the ambiguous word, further comprises instructions to resolve the one or more ambiguous typesetting placeholders in conformity with the one or more resolutions used to create the candidate solution having the *largest word*, *fewest words*, *smallest word*, and *most words* when the dictionary search matches a plurality of members of the set of candidate solutions.

However, Huang et al. teach that the instruction to use the dictionary search result to resolve the one or more ambiguous typesetting placeholders in the ambiguous word, further comprises instructions to resolve the one or more ambiguous typesetting placeholders in conformity with the one or more resolutions used to create the candidate solution having the *largest word*, *fewest words*, *smallest word*, and *most words* when the dictionary search matches a plurality of members of the set of candidate solutions (*col. 6, ln. 1-67, largest or fewest or smallest or most words can be selected depending the users*).

Since the modified Goldberg and Huang et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Goldberg by

Art Unit: 2655

incorporating the teaching of Huang et al. in order to correct the misrecognized words to improve system's efficiency.

15. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg (US Patent No. 6205261) in view of Crandall (US Patent No. 5999949) as applied in claim 4, and further in view of Cason et al. (US Patent No. 4435778).

16. Regarding claims 13 and 16, the modified Goldberg fails to specifically disclose that the ambiguous typesetting placeholders comprise hyphens resolvable as hard hyphens or soft hyphens, and instructions operable to cause a programmable processor to add space to an ambiguous white space resolved to be blank space and to remove space from an ambiguous white space resolved to be kerning space.

However, Cason et al. teach that the ambiguous typesetting placeholders comprise hyphens resolvable as hard hyphens or soft hyphens (*col. 10, ln. 49-64*), and instructions operable to cause a programmable processor to add space to an ambiguous white space resolved to be blank space and to remove space from an ambiguous white space resolved to be kerning space (*col. 6, ln. 15-21*).

Since the modified Goldberg and Cason et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Goldberg by

Art Unit: 2655

incorporating the teaching of Cason et al. in order to resolve ambiguous characters to improve the system's efficiency.

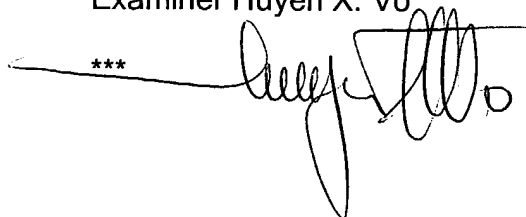
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Vo whose telephone number is 703-305-8665. The examiner can normally be reached on M-F, 9-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Huyen X. Vo



July 12, 2004


W. R. YOUNG
PRIMARY EXAMINER